

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P590478

Luminaire Tested: FSR-24-2-LD4-3HI-40-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590478
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-3HI-40-UNV-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7122.0 lumens
Efficiency: N/A
Efficacy: 109.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

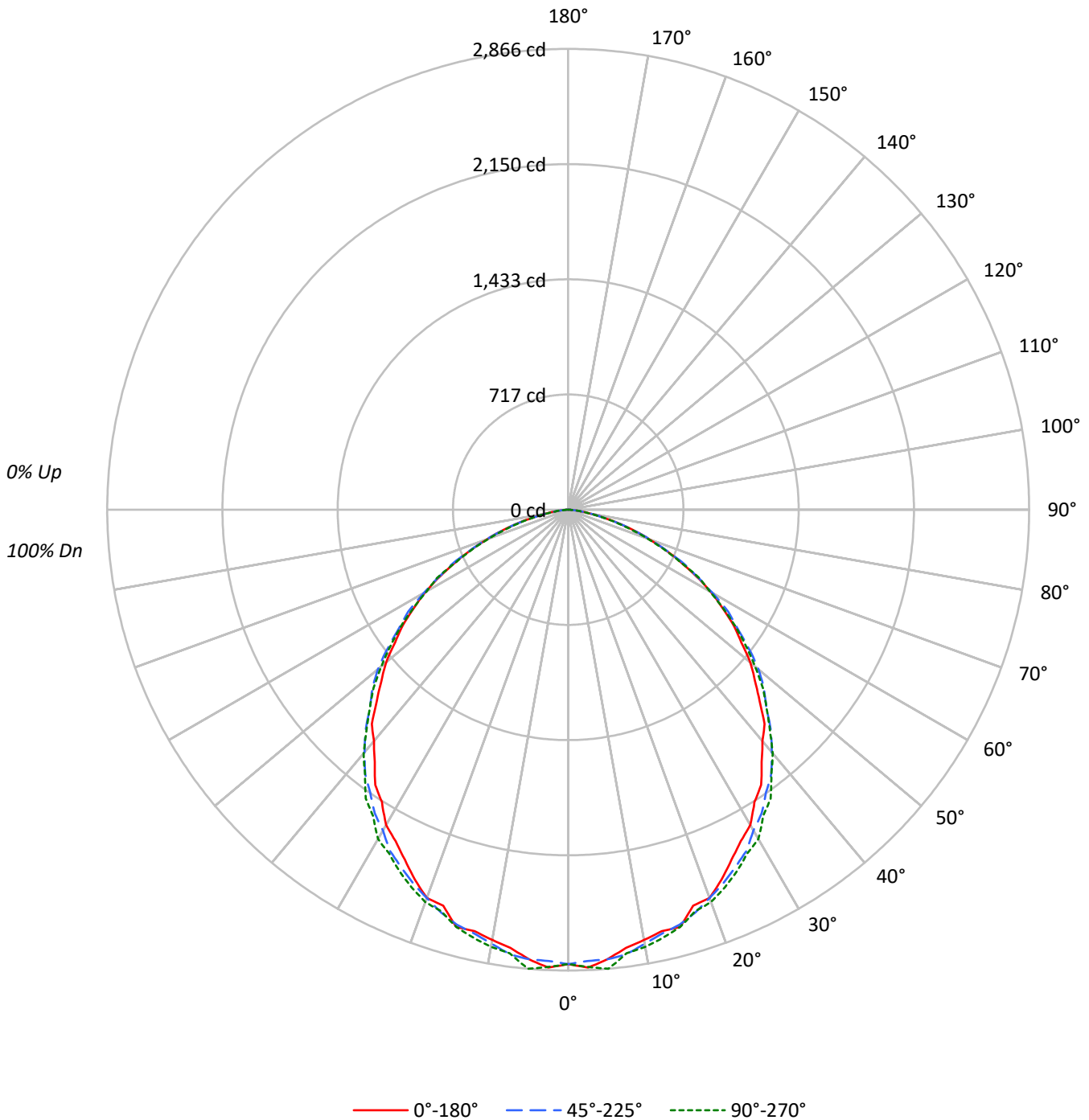
Input Watts (W): 64.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88					86				
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75					73				
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64					62				
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55					53				
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48					46				
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43					41				
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38					36				
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34					32				
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31					29				
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28					26				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7604	7604	7604
5°	7579	7582	7742
10°	7426	7490	7543
15°	7484	7444	7485
20°	7358	7358	7436
25°	7132	7288	7368
30°	7034	7157	7347
35°	6868	7048	7206
40°	6601	6919	6949
45°	6401	6629	6639
50°	6191	6470	6347
55°	5899	6013	5971
60°	5516	5571	5471
65°	4918	5044	4883
70°	4220	4235	4116
75°	3342	3334	3205
80°	2239	2177	2092
85°	1216	1204	1127

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6799 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	265.8	3.7
10°-20°	753.3	10.6
20°-30°	1128.7	15.8
30°-40°	1337.7	18.8
40°-50°	1340.2	18.8
50°-60°	1137.6	16.0
60°-70°	767.0	10.8
70°-80°	337.0	4.7
80°-90°	54.8	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2147.8	30.2
0°-40°	3485.5	48.9
0°-60°	5963.3	83.7
0°-90°	7122.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7122.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2826	2826	2826	2826	2826	
5°	2806	2799	2807	2798	2866	265
15°	2686	2655	2672	2686	2687	748
25°	2402	2415	2454	2486	2481	1110
35°	2091	2097	2145	2195	2194	1298
45°	1682	1713	1742	1787	1744	1301
55°	1257	1249	1282	1273	1273	1118
65°	772	762	792	762	767	768
75°	321	315	321	298	308	344
85°	39	38	39	38	36	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2825.8	2825.8	2825.8	2825.8	2825.8
2.5°	2850.3	2828.7	2808.7	2832.0	2846.3
5°	2805.8	2799.2	2806.9	2798.5	2866.0
7.5°	2748.1	2773.3	2787.9	2778.8	2782.8
10°	2717.5	2708.7	2741.2	2763.8	2760.5
12.5°	2684.6	2697.8	2699.6	2724.0	2726.2
15°	2686.5	2655.4	2671.9	2685.7	2686.8
17.5°	2582.1	2615.7	2627.0	2658.7	2619.3
20°	2569.3	2544.9	2569.3	2601.8	2596.7
22.5°	2490.9	2463.5	2516.1	2544.9	2543.1
25°	2401.9	2415.0	2454.4	2486.5	2481.4
27.5°	2323.8	2339.1	2395.3	2439.4	2411.0
30°	2263.6	2255.9	2303.4	2342.8	2364.6
32.5°	2155.9	2183.7	2239.1	2278.2	2257.4
35°	2090.6	2096.8	2145.4	2195.0	2193.5
37.5°	1976.4	2005.3	2073.5	2087.4	2074.6
40°	1879.0	1907.8	1969.5	1984.5	1978.3
42.5°	1807.1	1812.3	1865.2	1882.3	1854.9
45°	1682.0	1713.4	1741.8	1786.7	1744.4
47.5°	1575.5	1590.1	1651.3	1663.4	1641.1
50°	1478.8	1483.9	1545.5	1530.6	1516.0
52.5°	1357.3	1378.8	1413.5	1410.5	1393.4
55°	1257.3	1248.9	1281.7	1273.0	1272.6
57.5°	1137.3	1151.9	1178.9	1165.0	1142.7
60°	1024.9	1025.3	1035.1	1019.4	1016.5
62.5°	899.7	904.1	906.3	887.0	918.3
65°	772.4	762.2	792.1	761.8	766.9
67.5°	655.3	660.4	657.5	638.5	645.8
70°	536.3	542.9	538.2	516.6	523.2
72.5°	427.6	419.6	424.7	397.7	410.1
75°	321.4	314.9	320.7	298.1	308.3
77.5°	218.9	224.0	220.4	208.3	215.3
80°	144.5	140.5	140.5	133.5	135.0
82.5°	84.3	80.3	79.2	77.0	80.3
85°	39.4	38.3	39.0	37.9	36.5
87.5°	14.2	14.6	14.6	13.9	13.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)